

REMARKS

Status of the Claims

Claims 1, 2, 5-16, 19-28, 31-47, 49-81, 84-87, 90-92, 94-99, and 111-123 are pending in the present application, Claims 48, 83, 89, and 123 having been canceled in the present amendment, Claims 3, 4, 17, 18, 29, 30, 82, 88 and 93 having been previously canceled, and Claims 100-110 having been previously canceled in response to a restriction requirement. Claims 49-55, 76, 84-87, 90, 113, 114, and 117 have been amended to more clearly define the invention.

Entry Of the Present Amendment, which is after Final

MPEP 714.13 indicates that entry of after final amendments is not a right. However, that section also indicates after final amendments that require only a cursory review by the Examiner may be entered.

The majority of the present amendment cancels claims, addresses language issues identified by the Examiner, and places rejected claims in condition for allowance by introducing patentable subject matter from dependent claims to which the Examiner has objected, into the independent claims from which the dependent claims depended. Thus, the present amendment should require only a cursory review by the Examiner, no further search and consideration. Accordingly, entry of the present amendment after final is entirely consistent with MPEP 714.13.

The present amendment requests the Examiner briefly reconsider the language employed in Claim 123. The Examiner's comments in the final Office Action with respect to the rejection of Claim 123 are general in nature, and applicants are unable to determine if the Examiner has considered a specific element recited in Claim 123, which applicants believe distinguishes over the cited art. Because the Examiner has had an opportunity to review Claim 123 previously, and the reconsideration applicants are requesting is limited to a single prior art reference and a single element in Claim 123, such reconsideration should require only a cursory review. If after such reconsideration, the Examiner believes that Claim 123 does not distinguish over the cited art, or if the Examiner believes that a request for reconsideration of Claim 123 requires the filing of a Request for Continued Examination, applicants respectfully request that Claim 123 be canceled via Examiner's amendment, to place the application in condition for allowance.

1 Claims Rejected under 35 U.S.C. § 112

2 The Examiner has rejected Claims 113 and 114 under 35 U.S.C. § 112, second paragraph, as
3 being indefinite. The Examiner has asserted that the terms “quantity of a chemical product” and
4 “quality of a chemical product” are indefinite.

5 Applicants have amended independent Claim 113, and the language relating to the “quantity
6 of a chemical product” triggering the indefiniteness rejection is no longer included within the claim.
7 With respect to the term “quality of a chemical product,” applicants have amended Claim 113 to
8 clearly recite that the improvement in quality is compared to a quality achievable using the stacked
9 plate reactor absent the means to improve the quality of the chemical product. Furthermore, it should
10 be recognized that the language “*wherein a relatively higher quality product is characterized by at least one
11 of a relatively higher yield and the presence of relatively fewer byproducts, and a relatively lower quality
12 product is characterized by at least one of a relatively lower yield and the presence of relatively more
13 byproducts*” should not be considered indefinite. Such language is fully supported by the first paragraph of
14 page 79 of the specification, which clearly indicates that the quality of a product can be defined in terms of
15 the yield and the presence of byproducts in the product. Those of ordinary skill in the chemical arts will
16 clearly recognize that if a first chemical product includes relatively more byproducts than a second chemical
17 product, the first chemical product will be considered to be of a lower quality than the second chemical
18 product. Those of ordinary skill in the chemical arts will also readily recognize that yield is often used to
19 evaluate the quality of a chemical product. Yield refers to how much of the reactants have been converted
20 into a chemical product. If the relative proportions of a first and second reactant are carefully selected,
21 theoretically, 100% of the first and second reactants can be converted into a chemical product. However,
22 under real-world process conditions, a 100% yield is rarely achievable. Furthermore, the same relative
23 proportions of the first and second reactant introduced into different reactors (or into the same reactor under
24 a different process conditions) often achieve different yields of the same chemical product (i.e., more or less
25 chemical product is generated using the same amount of reactants where different reactors or different
26 process conditions are utilized). Those of ordinary skill in the art will readily recognize that a first chemical
27 product produced under conditions resulting in a first yield can be considered to be a higher quality product
28 as compared with the same chemical product produced under conditions resulting in a smaller yield. Thus,
29 the language included in Claim 113 is supported by the specification, and is not indefinite to one of ordinary
30 skill in this art. Accordingly, the rejection of Claims 113 as being indefinite should be withdrawn.

1 With respect to the rejection of Claim 114, the Examiner asserts that the term "thereby enhancing a
2 quality of a product that is produced in the stacked plate reactor" is indefinite. Applicants have amended
3 Claim 114 to remove that term, thereby obviating the rejection. Accordingly, the rejection of Claims 114 as
4 being indefinite should be withdrawn.

5 Claims Rejected under 35 §. U.S.C. § 102

6 The Examiner has rejected Claims 76-81, 117, and 123 under 35 §. U.S.C. § 102(b) as being
7 anticipated by Giddings (U.S. Patent No. 4,894,146). Applicants have amended the claims to further
8 distinguish over the cited art, as described in detail below.

9 Claim 76 has been amended to incorporate the same language recited in Claims 83 and 89
10 (each of which having been objected to by the Examiner), and Claims 83 and 89 have been canceled.
11 Claim 76 as amended is therefore distinguishable over the art for the same reasons that Claims 83 and
12 89 were distinguishable over the art. Claims 84-87, previously dependent upon Claim 83, have been
13 amended to depend from Claim 76. Claim 90, previously dependent upon Claim 89, has been
14 amended to depend from Claim 76. These amendments place Claims 76-81, 84-87, and 90-99 in
15 condition for allowance. Accordingly, the rejection of Claims 76-81 as being anticipated by
16 Giddings should be withdrawn.

17 Claim 117 has been amended to incorporate the same language recited in Claim 48 (Claim 48
18 having been objected to by the Examiner), and Claim 48 has been canceled. Claim 117 as amended
19 is therefore distinguishable over the art for the same reason that Claims 48 was distinguishable over
20 the art. Claims 49-55, previously dependent upon Claim 48, have been amended to depend from
21 Claim 117. These amendments place Claims 49-55 and 117 in condition for allowance.
22 Accordingly, the rejection of Claim 117 as being anticipated by Giddings should be withdrawn.

23 As noted above, if the Examiner feels either that Claim 123 is not patentable, or that upon
24 reconsidering the claim in view of the following discussion, the claim is still not patentable,
25 applicants are amenable to an Examiner's amendment canceling Claim 123 to place the case in
26 condition for allowance. However, before canceling Claim 123, applicants respectfully request the
27 Examiner to briefly consider the following recitation in Claim 123, which appears to distinguish over
28 Giddings.

29 Claim 123 specifically recites a stacked plate reactor comprising a plurality of simple plates
30 stacked in layers, each simple plate having a plurality of openings that extend therethrough, openings in

1 each simple plate overlapping openings in an adjacent simple plate, thereby forming a plurality of structures,
2 including “*a heat transfer fluid path for a heat transfer medium, such that the heat transfer fluid path and*
3 *the fluid paths for each different chemical reactant and the chemical product are not in fluid*
4 *communication.*” Applicants respectfully submit that the stacked plate structure are disclosed by
5 Giddings does not include any fluid paths, which “*are not in fluid communication.*” That is,
6 Giddings’ stacked plate device defines an internal volume that can be accessed through a plurality of
7 different inlets. Significantly, no portion of the internal volume in Giddings’ stacked plate device is
8 fluidically isolated from any inlet. Therefore, Giddings does not teach or suggest a stacked place
9 device including a plurality of structures defined by openings in stacked plates, where the plurality of
10 structures include a reactant fluid path and a product of fluid path that are not in fluid communication
11 with a heat transfer fluid path. Essentially, all fluid paths within Giddings stacked place device are in
12 fluid communication with one another. There is simply no basis for concluding that it would have
13 been obvious to modify Giddings’ particulate separation device to achieve the claimed chemical
14 reactor. The cited art does not teach or suggest such a modification. Accordingly Claim 123 is
15 distinguishable over Giddings.

16 Claims To Which the Examiner Has Objected

17 The Examiner has indicated that Claims 48-55, 83-87, 89-92, and 94-99 are objected to as
18 being dependent upon a rejected based claim, but would be allowable if rewritten in independent
19 form, including all of the limitations of the base claim and any intervening claims. As noted above,
20 applicants have incorporated recitation from Claims 83 and 89 into independent Claim 76 as an
21 alternative to rewriting Claims 83 and 89 in independent form. Similarly, patentable subject matter
22 from Claim 48 has been introduced into Claim 117, as an alternative to rewriting Claim 48 in
23 independent form. The above amendments place all remaining claims to which the Examiner
24 objected into condition for allowance, by placing the rejected base claims in condition for allowance.

25 In view of the amendments and Remarks set forth above, it will be apparent that the claims in
26 this application define a novel and non-obvious invention, and that the application is in condition for
27 allowance and should be passed to issue without further delay. Should any further questions remain,
28 the Examiner is invited to telephone applicants’ attorney at the number listed below.

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Respectfully submitted,

respectfully submitted,

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MCK/RMA:lrq

MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service in a sealed envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner for Patents, Alexandria, VA 22313-1450, on May 20, 2005.

Date: May 20, 2005

Linda Garrett